APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2166	

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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/626,984	KAWAI ET AL.
	Examiner	Art Unit	
	Leon J. Harper	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 July 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-53</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-53</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 July 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/13/2006</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the application 10626984 filed on 7/25/2003.

Claims 1-53 are pending.

Specification

The disclosure is objected to because of the following informalities: Page 14 of

the specification states "Document A has scores corresponding to concepts 5 and 120

and Document B has scores corresponding to concepts 3,5 and **120**, thus these

documents only have concept 5 in common. It is believed and examiner will assume for

the purpose of this examination that the highlighted 120 should read 47, since there is

no vector for document B corresponding to 120 and that will also satisfy the requirement

of A and B only have 5 in common.   Appropriate correction is required.

Claim Objections

Claims 17, 52 are objected to under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

in proper dependent form, or rewrite the claim(s) in independent form. Claims 17,52

contain essentially the same limitations as claims 9,35 respectively.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1- 53 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1- 53 Claims 1-53 are not limited to embodiments that fall into a statutory category. Page 9 lines 17-23 of the specification state that each module is a computer program, procedure or module written as source code. The various implementations of the source code and object codes can be held on computer readable storage medium or embodied on a transmission medium in a carrier wave. Carrier waves however, and not an embodiment that is tangle, therefore every claim is directed toward subject matter that cannot be perceived as tangible and is therefore rejected under U.S.C. §101.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19-23, 31,36-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each of the above claims state "substantially in accordance with the formula." The word substantially implies that there may possible be more terms in the equation, and in the specification the described embodiment is

calculated in accordance with the equations not substantially in accordance with the

equation. Thus claims 19-23, 31, 36-40 have not been treated any further on the merits.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-17 rejected under 35 U.S.C. 102(a) as being anticipated by Wo

03060766 (hereinafter Lin) (art of record).

As for claim 1 Lin discloses: a scoring module determining a score assigned to at

least one concept extracted from a plurality of documents (See page 17 lines 20-24

note: definition of document corpus) based on at least one of a frequency of occurrence

of the at least one concept within at least one such document, a concept weight, a

structural weight, and a corpus weight; (See page 7 lines 20-24) and a clustering

module forming clusters of the documents by applying the score for the at least one

concept to a best fit criterion for each such document (See page 19 lines 4-10).

As for claim 2 the rejection of claim 1 is incorporated, and further Lin discloses:

the scoring module calculating the score as a function of a summation of at least one of

the frequency of occurrence, the concept weight, the structural weight, and the corpus

weight of the at least one concept (See Page 23 lines 1-4).

As for claim 3 the rejection of claim 2 is incorporated, and further Lin discloses: a

compression module compressing the score through logarithmic compression (See

page 17 line 30-34).

As for claim 4 the rejection of claim 1 is incorporated, and further Lin discloses:

the scoring module calculating the concept weight as a function of a number of terms

comprising the at least one concept (See page 21 lines 25-28).

As for claim 5 the rejection of claim 1 is incorporated, and further Lin discloses:

the scoring module calculating the structural weight as a function of a location of the at

least one concept within the at least one such document (See page 18 lines 10-14).

As for claim 6 the rejection of claim 1 is incorporated, and further Lin discloses:

the scoring module calculating the corpus weight as a function of a reference count of

the at least one concept over the plurality of documents (See page 18 lines 19- 21 note:

this is an inverse weight of the reference count).

As for claim 7 the rejection of claim 1 is incorporated, and further Lin discloses:

the scoring module forming the score assigned to the at least one concept to a

normalized score vector for each such document, determining a similarity between the

normalized score vector for each such document as an inner product of each

normalized score vector, and applying the similarity to the best fit criterion (See page 30

line 30- page 31 line 1).

As for claim 8 the rejection of claim 1 is incorporated, and further Lin discloses:

the clustering module evaluating a set of candidate seed documents selected from the

plurality of documents, identifying a set of seed documents by applying the score for the

at least one concept to a best fit criterion for each such candidate seed document, and

basing the best fit criterion on the score of each such seed document (See page 28 line

8-16 note representative= seed).

Claims 9-16 are method claims corresponding to system claims 1-8 respectively,

and are thus rejected for the reasons set forth in the rejection of claims 1-8.

Claim 17 is rejected for the same reasons as claim 9.

As for claim 18 Lin discloses: a frequency module determining a frequency of

occurrence of at least one concept within a document retrieved from the document set

(See page 18 lines 1-3); and a concept weight module analyzing a concept weight

reflecting a specificity of meaning for the at least one concept within the document (See

page 25 lines 27-30 note: rtc(t,c) is a value based on meaning); a structural weight

module analyzing a structural weight reflecting a degree of significance based on

structural location within the document for the at least one concept (See page 18 lines

8-13), a corpus weight module analyzing a corpus weight inversely weighing a

reference count of occurrences for the at least one concept within the document (See

page 18 lines 19- 21 note: this is an inverse weight of the reference count); and a

scoring module evaluating a score associated with the at least one concept as a

function of the frequency, concept weight, structural weight, and corpus weight (See

page 21 24-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin as

applied to claim 18 above, and further in view of US 6675159 (hereinafter Klein) (art of

record)

As for claim 24 the rejection of claim 18 is incorporated, and further Klein

discloses: a global stop concept vector cache maintaining concepts and terms (See

column 18 lines 17-20 and See column 14 lines 45-49); and a filtering module filtering

selection of the at least one concept based on the concepts and terms maintained in the

global stop concept vector cache (See column 14 lines 45-50). It would have been

obvious to an artisan of ordinary skill in the pertinent art at the time of the invention to

have incorporated the teachings of Klein into the system of Lin. The modification would

have been obvious because queries and documents are linked in the fact that words are

the entities that are being processed. Therefore, any transformation capable of being

made to a query should be able to applied to documents too, this makes all document

management systems more efficient and easier to maintain.

As for claim 25 the rejection of claim 18 is incorporated, and further Klein

discloses: a parsing module identifying terms within at least one document in the

document set, and combining the identified terms into one or more of the concepts (See

column 2 lines 53-56).

As for claim 26 the rejection of claim 25 is incorporated, and further Klein discloses: the parsing module structuring each such identified term in the one or more concepts into canonical concepts comprising at least one of word root, character case, and word ordering (See column 14 lines 63-67).

As for claim 27 the rejection of claim 25 is incorporated, and further Klein discloses wherein at least one of nouns, proper nouns and adjectives are included as terms (See column 14 lines 40-44).

Claims 28-30,32-34 rejected under 35 U.S.C. 103(a) as being unpatentable over Lin as applied to claim 18 above, and further in view of US 5794236 (hereinafter Mehrle).

As for claim 28 the rejection of claim 18 is incorporated, and further Mehrle discloses a plurality of candidate seed documents (See column 2 lines 42-46), a similarity module determining a similarity between each pair of a candidate seed document and a cluster center (See column 8 lines 14-23); a clustering module designating each such candidate seed document separated from substantially all cluster centers with such similarity being sufficiently distinct as a seed document, and grouping each such candidate seed document not being sufficiently distinct into a cluster with a nearest cluster center (See column 9 lines 3-10). It would have been obvious to an artisan of ordinary skill in the pertinent art to have incorporated the teachings of Mehrle

into the system of Lin. The modification would have been obvious because having

seeds allows for more efficient clustering and document retrieval.

As for claim 29 the rejection of claim 28 is incorporated, and further Mehrle

discloses: a plurality of candidate seed documents; a similarity module determining a

similarity between each pair of a candidate seed document and a cluster center; a

clustering module designating each such candidate seed document separated from

substantially all cluster centers with such similarity being sufficiently distinct as a seed

document, and grouping each such candidate set document not being sufficiently

distinct into a cluster with a nearest cluster center.

As for claim 32 the rejection of claim 29 is incorporated, and further Mehrle

discloses: a dynamic threshold module determining a dynamic threshold for each

cluster based on the similarities between each document in the cluster and a center of

the cluster (See column 6 lines 30-42); and the similarity module identifying each

outlier document having such a similarity outside the dynamic threshold (See column 9

lines 3-10).

As for claim 33 the rejection of claim 32 is incorporated, and further Mehrle

discloses: the clustering module grouping each such outlier document into a cluster

having a best fit, subject to a minimum fit criterion and the dynamic threshold of the

cluster (See column 3 lines 7-16).

As for claim 34 the rejection of claim 32 is incorporated, and further wherein the dynamic threshold is determined based on the similarities of the documents in the cluster to the cluster center (See column 6 lines 30-37).

Claim 35 is a method claim corresponding to system claim 18, and is thus rejected for the reasons set forth in the rejection of claim 18.

Claims 41-47,49-51 are method claims corresponding to system claims 24-30,32-34 respectively and are thus rejected for the same reasons as set forth in the rejection of claims 24-30,32-34.

Claim 52 is rejected for the same reason as claim 35.

Claim 53 is an apparatus claim corresponding to method claim 18 and is thus rejected for the same reasons as claim 18.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin and Mehrle as applied to claim 29 above, and further in view of Klein.

As for claim 30 the rejection of claim 29 is incorporated, and further Klein discloses: a normalized score vector for each document comprising the score

associated with the at least one concept for each such concept occurring within the

document (See column 3 lines 18-21); and the similarity module determining the

similarity as a function of the normalized score vector associated with the at least one

concept for each such document (See column 18 lines 23-26).

Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Leon J. Harper whose telephone number is 571-272-

0759. The examiner can normally be reached on 7:30AM - 4:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain T. Alam can be reached on 571-272-3978. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

MOHAMMAD ALI
PRIMARY EXAMINER

LJH
Leon J Harper
February 13, 2006